Safe Operation Practices • Contents of Carton • Assembly • Adjustments & Operation • Maintenance Warranty

Cub Cadet®

OPERATOR'S MANUAL

45" Snow Thrower Attachment — Model 190-353-100

⚠ WARNING

READ AND FOLLOW ALL SAFETY RULES AND INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO OPERATE THIS MACHINE.
FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.

CUB CADET LLC, P.O. BOX 361131 CLEVELAND, OHIO 44136-0019

Printed In USA

Form No. 769-06265
(July 23, 2010)

To The Owner

1

Thank You

Thank you for purchasing a Cub Cadet snow thrower attachment. It was carefully engineered to provide excellent performance when properly operated and maintained.

Please read this entire manual prior to operating the equipment. It instructs you how to safely and easily set up, operate and maintain your machine. Please be sure that you, and any other persons who will operate the machine, carefully follow the recommended safety practices at all times. Failure to do so could result in personal injury or property damage.

All information in this manual is relative to the most recent product information available at the time of printing. Review this manual frequently to familiarize yourself with the machine, its features and operation. Please be aware that this Operator's Manual may cover a range of product specifications for various models. Characteristics and features discussed and/or illustrated in this manual may not be applicable to all models. We reserve the right to change product specifications, designs and equipment without notice and without incurring obligation.

If you have any problems or questions concerning the machine, phone your local Cub Cadet dealer or contact us directly. Cub Cadet's Customer Support telephone numbers, website address and mailing address can be found on this page. We want to ensure your complete satisfaction at all times.

The Cub Cadet 45-inch Snow Thrower Attachment, Model Number 190-353, is designed for use on Cub Cadet Series 3000 Tractors. Contained in this manual are instructions for the installation and use of the snow thrower assembly with these tractors.

Please keep this manual. The instructions in this manual explain the minor assembly required; installation and seasonal removal; and the adjustment, operating and maintenance procedures for the snow thrower assembly. Read this manual carefully to familiarize yourself with the equipment before you install and operate the snow thrower.

The Front Hitch System, Model 190-343-100, MUST be installed on the tractor to allow installation of the Snow Thrower Attachment. The Hydraulic Angling Kit accessory, Model 190-288-100, for the Front Hitch System SHOULD NOT be used with the Snow Thrower Attachment. Accidental activation of the angling system could cause damage to both the snow thrower and tractor.

WARNING! To increase traction and stability of the tractor when using the snow thrower attachment, it is recommended that rear wheel weights, or the rear weight bracket with a minimum of three suitcase weights, be installed on the tractor. The Rear Wheel Weight Kit is available through your Cub Cadet dealer by ordering kit number 190-412. The Rear Weight Bracket Kit is available as kit number 190-413, which includes only the bracket and mounting hardware. The individual suitcase weights can be ordered under part number 759-3389.

Throughout this manual, all references to *right* and *left* side of the machine are observed from the operating position.

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Record Product Information

Before setting up and operating your new equipment, please locate the model plate on the equipment and record the information in the provided area to the right. This information will be necessary, should you seek technical support via our web site or with your local Cub Cadet dealer.

MODEL NUMBER

SERIAL NUMBER

Customer Support

If you have difficulty assembling this product or have any questions regarding the controls, operation, or maintenance of this machine, you can seek help from the experts. Choose from the options below:

◊ Visit us on the web at www.cubcadet.com

◊ Locate your nearest Cub Cadet Dealer at (877) 282-8684

◊ Write to Cub Cadet LLC • P.O. Box 361131 • Cleveland, OH • 44136-0019

Important Safe Operation Practices

2

WARNING! This symbol points out important safety instructions which, if not followed, could endanger the personal safety and/or property of yourself and others. Read and follow all instructions in this manual before attempting to operate this machine. Failure to comply with these instructions may result in personal injury.
When you see this symbol. **HEED ITS WARNING!**

CALIFORNIA PROPOSITION 65

WARNING! Engine Exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to State of California to cause cancer and birth defects or other reproductive harm.

DANGER: This machine was built to be operated according to the safe operation practices in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. This machine is capable of amputating fingers, hands, toes and feet and throwing foreign objects. Failure to observe the following safety instructions could result in serious injury or death.

Training

1. Read, understand, and follow all instructions on the machine and in the manual(s) before attempting to assemble and operate. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
2. Be familiar with all controls and their proper operation. Know how to stop the machine and disengage them quickly.
3. Never allow children under 14 years old to operate this machine. Children 14 years old and over should read and understand the operation instructions and safety rules in this manual and should be trained and supervised by a parent.
4. Never allow adults to operate this machine without proper instruction.
5. Thrown objects can cause serious personal injury. Plan your snow throwing pattern to avoid discharge of material toward roads, bystanders and the like.
6. Keep bystanders, pets and children at least 75 feet from the machine while it is in operation. Stop machine if anyone enters the area.
7. Exercise caution while operating tractor with this attachment, especially when traveling in reverse.

Preparation

1. Thoroughly inspect the area where the equipment is to be used. Remove all door mats, newspapers, sleds, boards, wires and other foreign objects which could be thrown by the auger/impeller.
2. Always wear safety glasses or eye shields during operation and while performing an adjustment or repair to protect your eyes. Thrown objects which ricochet can cause serious injury to the eyes.
3. Do not operate without wearing adequate winter outer garments. Do not wear jewelry, long scarves or other loose clothing which could become entangled in moving parts. Wear footwear which will improve footing on slippery surfaces.
4. Adjust collector housing height to clear gravel or crushed rock surfaces.
5. Disengage all clutches and shift into neutral before starting the engine.
6. Never attempt to make any adjustments while engine is running, except where specifically recommended in the operator's manual(s).
7. Let tractor engine and attachment adjust to outdoor temperature before starting to clear snow.

8. To avoid personal injury or property damage use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive. Serious personal injury can occur when gasoline is spilled on yourself or your clothes which can ignite. Wash your skin and change clothes immediately.
    a. Use only an approved gasoline container.
    b. Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground, away from your vehicle, before filling.
    c. When practical, remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment on a trailer with a portable container, rather than from a gasoline dispenser nozzle.
    d. Keep the nozzle in contact with the rim of the fuel tank or container opening at all times, until refueling is complete. Do not use a nozzle lock-open device.
    e. Extinguish all cigarettes, cigars, pipes and other sources of ignition.
    f. Never fuel machine indoors.
    g. Never remove gas cap or add fuel while the engine is hot or running.
    h. Allow engine to cool at least two minutes before refueling.
    i. Never over fill fuel tank. Fill tank to no more than ½ inch below bottom of filler neck to provide space for fuel expansion.
    j. Replace gasoline cap and tighten securely.
    k. If gasoline is spilled, wipe it off the engine and equipment. Move machine to another area. Wait 5 minutes before starting the engine.
    l. Never store the machine or fuel container inside where there is an open flame, spark or pilot light (e.g. furnace, water heater, space heater, clothes dryer etc.).
    m. Allow machine to cool at least 5 minutes before storing.

Operation

1. Do not put hands or feet near rotating parts, in the auger/impeller housing or discharge chute. Contact with the rotating parts can amputate hands and feet.
2. Never operate with a missing or damaged discharge chute. Keep all safety devices in place and working.
3. When cleaning, repairing or inspecting the snow thrower, make certain the collector/impeller and all moving parts have stopped. Disconnect the spark plug wire and keep the wire away from the plug to prevent someone from accidentally starting the machine. Do not run the engine indoors, except when starting the engine and for transporting the snow thrower in or out of the building. Open the outside doors; exhaust fumes are dangerous.
4. Do not operate machine while under the influence of alcohol or drugs.
5. Muffler and engine become hot and can cause a burn. Do not touch.
6. Exercise extreme caution when operating on or crossing gravel surfaces. Stay alert for hidden hazards or traffic. Do not carry passengers.
7. Exercise caution when changing direction and while operating on slopes.
8. Do not clear snow across the face of slopes; go up and down. Exercise extreme caution when operating on slopes. Do not attempt to clear steep slopes.
9. Plan your snow throwing pattern to avoid discharge towards windows, walls, cars etc. To avoid property damage or personal injury caused by a ricochet.
10. Never direct discharge at children, bystanders and pets or allow anyone in front of the machine.
11. Do not overload machine capacity by attempting to clear snow at too fast of a rate.
12. Never operate this machine without good visibility or light.
13. Disengage power to the auger/impeller when transporting or not in use.
14. Never operate machine at high transport speeds on slippery surfaces. Look down and behind and use care when in reverse.
15. If the machine should start to vibrate abnormally, stop the engine, disengage the power take-off, lower the attachment and set the parking brake. Inspect thoroughly for damage. Repair any damage before starting and operating.
16. After striking a foreign object, stop the engine (motor), remove the wire from the spark plug, thoroughly inspect the snow thrower for any damage, and repair the damage before restarting and operating the snow thrower.
17. Disengage the power take-off, lower attachment, set the parking brake and stop engine before you leave the operating position. Wait until the auger/impeller comes to a complete stop before unclogging the discharge chute, making any adjustments, or inspections.
18. Do not carry passengers.
19. Use only attachments and accessories approved by the manufacturer (e.g. wheel weights, tire chains, cabs etc.).
20. If situations occur which are not covered in this manual, use care and good judgment. Contact your dealer or telephone 1-800-800-7310 for assistance and the name of your nearest servicing dealer.

Clearing A Clogged Discharge Chute

Hand contact with the rotating impeller inside the discharge chute is the most common cause of injury associated with snow throwers. Never use your hand to clean out the discharge chute.

To clear the chute:

1. SHUT THE ENGINE OFF!
2. Wait 10 seconds to be sure the impeller blades have stopped rotating.
3. Always use a clean-out tool, not your hands

Maintenance And Storage

1. Never tamper with safety devices. Check their proper operation regularly.
2. Disengage power take-off, lower the attachment, set the parking brake, stop engine and remove key to prevent unintended starting. Wait until the auger/impeller comes to a complete stop before cleaning, repairing, or inspecting.
3. Check bolts, and screws for proper tightness at frequent intervals to keep the machine in safe working condition. Also, visually inspect machine for any damage.
4. Do not change the engine governor setting or over-speed the engine. The governor controls the maximum safe operating speed of the engine.
5. Snow thrower shave plates and skid shoes are subject to wear and damage. For your safety protection, frequently check all components and replace with original equipment manufacturer's (O.E.M.) parts only. "Use of parts which do not meet the original equipment specifications may lead to improper performance and compromise safety!"
6. Check clutch controls periodically to verify they engage and disengage properly and adjust, if necessary. Refer to the PTO and safety interlock system in your tractor's operator's manual for instructions.
7. Maintain or replace safety and instruction labels, as necessary.
8. Observe proper disposal laws and regulations for gas, oil, etc. to protect the environment.
9. Prior to storing, run machine a few minutes to clear snow from machine and prevent freeze up of auger/impeller.
10. Never store the machine or fuel container inside where there is an open flame, spark or pilot light such as a water heater, furnace ,clothes dryer etc.
11. Always refer to the operator's manual for proper instructions on off-season storage.

Safety Symbols

The safety symbols below may appear on this product. Read, understand, and follow all instructions on the machine before attempting to assemble and operate.

Symbol	Description
	WARNING— ROTATING BLADES Keep hands out of inlet and discharge openings while machine is running. There are rotating blades inside
	WARNING— ROTATING AUGER Do not put hands or feet near rotating parts, in the auger/impeller housing or chute assembly. Contact with the rotating parts can amputate hands and feet.

WARNING! Your Responsibility—Restrict the use of this power machine to persons who read, understand and follow the warnings and instructions in this manual and on the machine.

SAVE THESE INSTRUCTIONS!

Contents of Carton

3

This section will help you to become familiar with the components of the 45" Snow Thrower Attachment, Model 190-353.

Select a firm level surface that is large enough to accommodate both the snow thrower assembly and the tractor with front hitch assembly. After removing the upper crating material, remove the hardware pack and carefully roll the snow thrower assembly rearward so that it rests on its bottom. When repositioning the snow thrower, use care not to pinch or bind the chute crank support tube (D, Figure 1). Cut the tie strap(s) and remove any packaging material from the chute crank rod/tilt handle/support tube assembly (C thru E, Figure 1), then position to the left side of the snow thrower assembly.

Refer to Figures 3-1 and 3-2 to confirm that all parts are present and to acquaint yourself with the part descriptions. Throughout the instructions in this manual the parts shown in Figures 3-1 and 3-2 will be identified by name, followed by either their call-out letter or number in parenthesis.

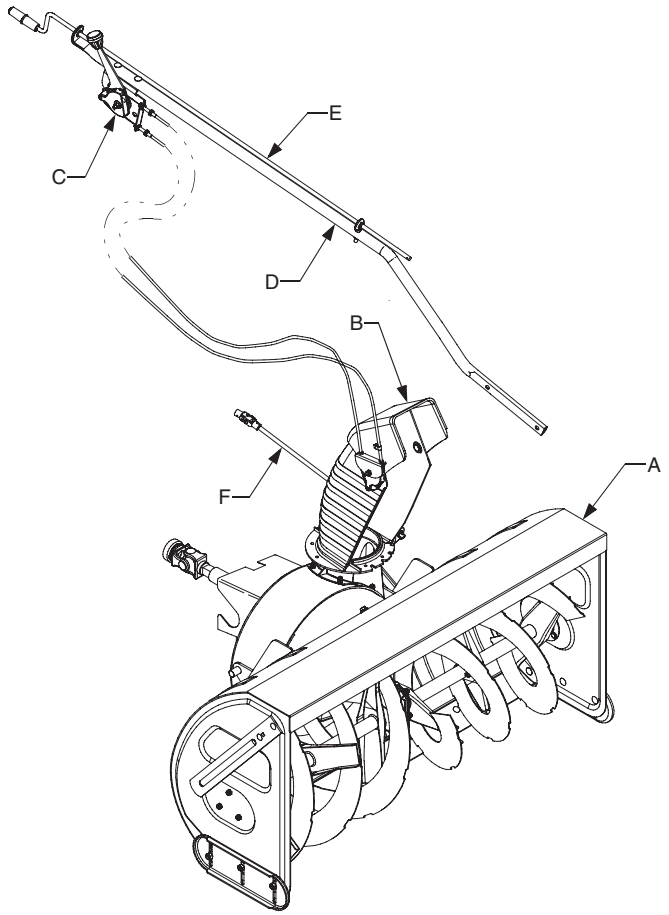

Figure 3-1

REF.	DESCRIPTION	QUANTITY
A	Snow Thrower Assembly	1
B	Discharge Chute Assembly	1
C	Chute Tilt Handle Assembly	1
D	Chute Crank Support Tube Assembly	1
E	Chute Crank Rod Assembly	1
F	Chute Crank/Mounting Bracket Assembly	1

Contents of Hardware Pack

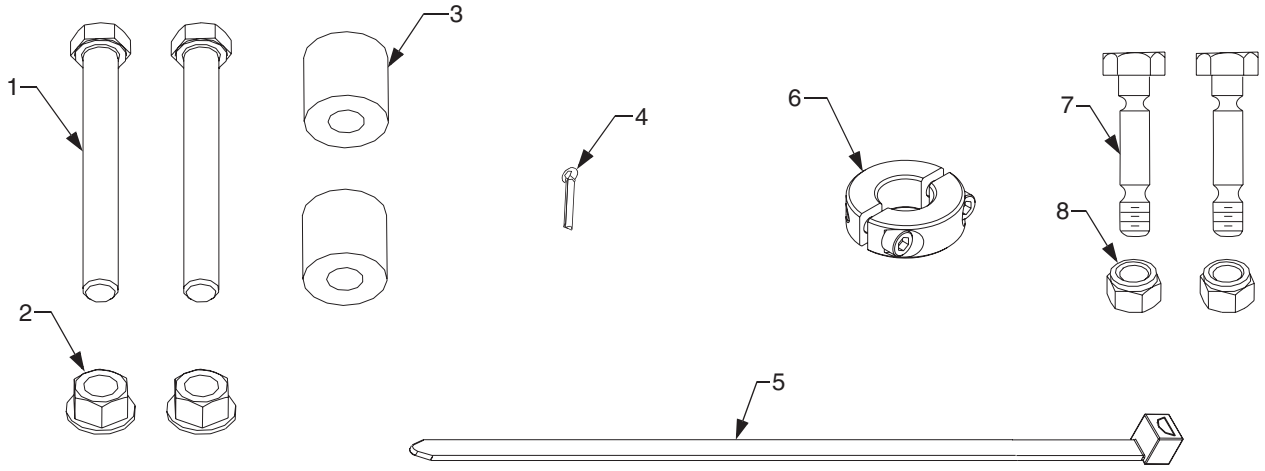

Figure 3-2

REF.	PART #	DESCRIPTION	QUANTITY
1	710-3022	Hex Cap Screw, 3/8-16 X 2.75 Lg GR5	2
2	712-0431	Hex Flange Lock Nut, 3/8-16	2
3	750-0748	Spacer, 3/8 ID x 1.0 OD x 1.25 Lg	2
4	714-0507	Cotter Pin, 3/32 X 3/4 Lg	1
5	725-0157	Cable Tie	1
6	711-1351	Split Locking Collar Assembly	1
7	710-0891	Shear Bolt, 5/16-18 X 1-3/4 Lg (Extra)	2
8	712-0429	Hex Insert Lock Nut, 5/16-18 (Extra)	2

Assembly, Installation & Removal

4

This section contains instructions for final assembly of the 45" Snow Thrower, and the quick attachment steps for installation and removal of the snow thrower. Before beginning, select a firm and level surface large enough to accommodate both the snow thrower attachment and tractor.

The mower deck and its front lift bracket assembly should be removed from the tractor before installing the snow thrower. Refer to the mower deck Operator's Manual for deck removal instructions. To remove (or install) the front lift bracket assembly while the Front Hitch Kit Assembly is installed, proceed as follows:

WARNING! If the tractor has been recently operated, the muffler, exhaust pipe, and surrounding areas will be HOT. Allow the tractor to cool before beginning installation.

- Loosen the hex lock nut (or wing-nut knob) securing the pivot pin on the left side of front hitch.
- Remove the hex lock nut (or wing-nut knob) and pivot pin from the right side of the front hitch. Lower the right side of the hitch pivot plate assembly.
- Push downward on the tractor's quick attach rod and remove the deck front lift bracket assembly.
- Reposition the hitch pivot plate and install the RH pivot pin and hex lock nut (wing nut). Tighten the left hex lock nut. Refer to the Front Hitch Operator's Manual if necessary.

ASSEMBLY

1. Insert the two hex cap screws (1 , Figure 3-2) through the holes at the forward end of the chute crank support assembly (D , Figure 3-1), then slide a spacer (3 , Figure 3-2) onto each cap screw (1 , Figure 3-2).

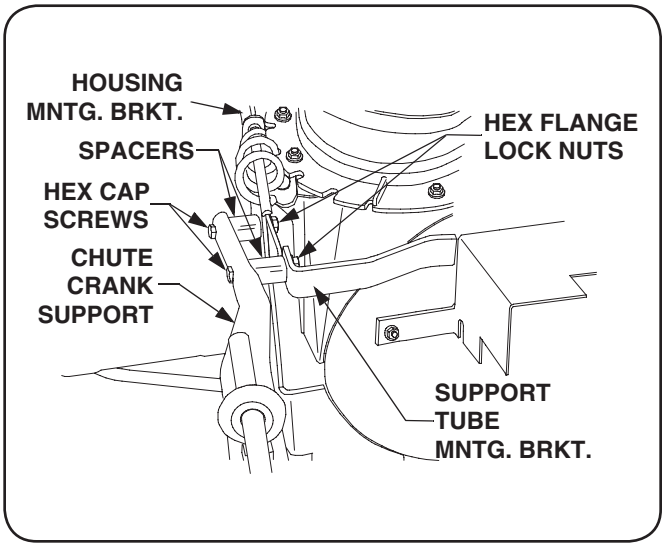

Figure 4-1

2. Position the chute crank support tube (D) to insert the screws (1, Figure 3-2) into the holes of the support tube mounting bracket and the housing mounting bracket on the left rear of the snow thrower housing. Secure with the hex flange lock nuts (2 , Figure 3-2). Refer to Figure 4-1.
3. Secure the tilt handle cables (C , Figure 3-1) to the inside of the support tube (D , Figure 3-1) with the cable tie (5 , Figure 3-2). See Figure 4-2. Cut excess length from the cable tie.

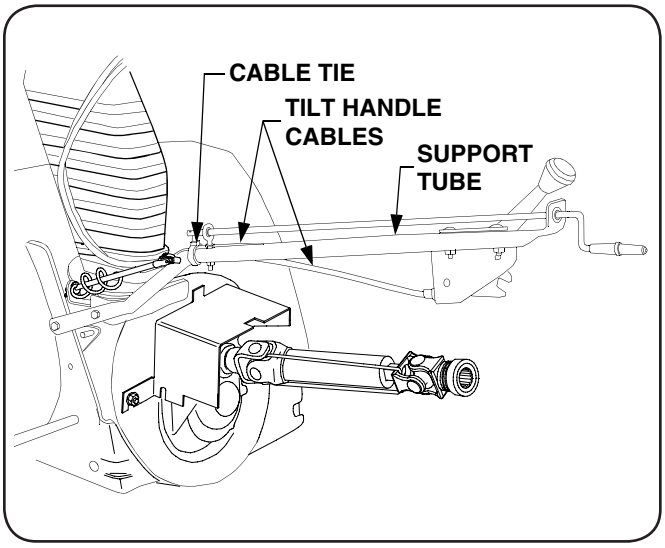

Figure 4-2

4. After making sure the chute crank rod is routed through the eye bolt, insert the rod (E, Figure 3-1) into the sleeve of the joint block on the chute crank assembly (F , Figure 3-1). Align the holes and secure the rod with the cotter pin (4 , Figure 3-2). See Figure 4-3.

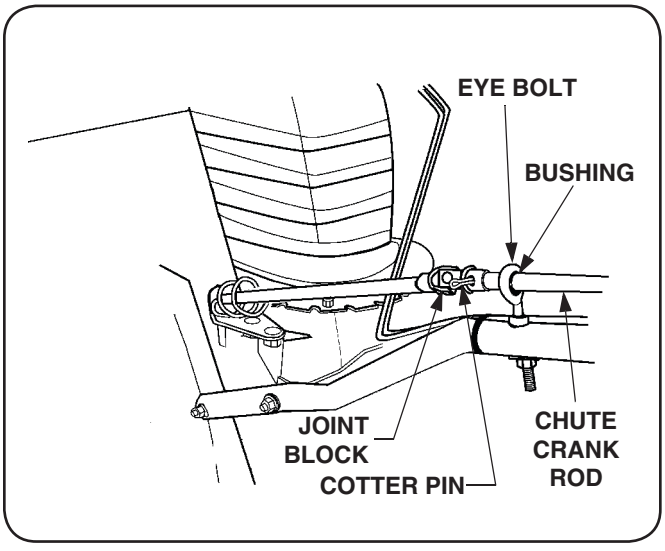

Figure 4-3

5. Remove the two socket head screws from the split locking collar assembly (6, Figure 3-2) and install the collar onto the bottom of the piston of the front hitch lift cylinder. Secure with the two socket head screws (See Figure 4-4).

   NOTE: If necessary, use the tractor hydraulic system to slightly extend the cylinder piston.

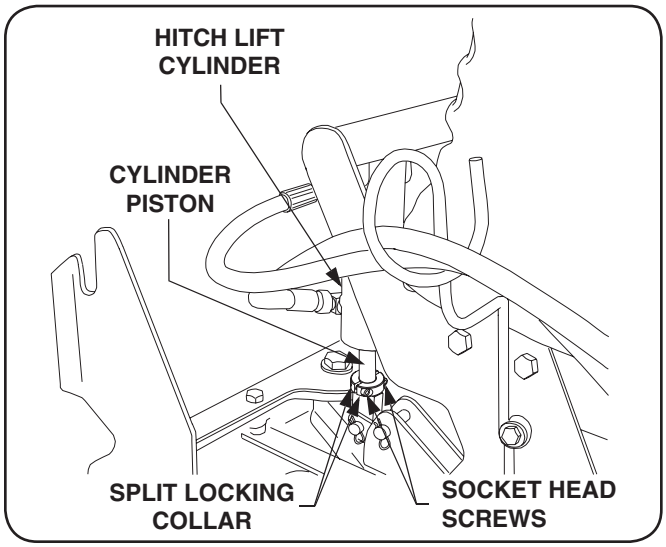

Figure 4-4

INSTALLATION

WARNING! If the Hydraulic Angling Kit (190-288-100) is installed on the front hitch, accidental actuation of the angling system could result in damage to the snow thrower and/or tractor.

NOTE: Whenever the snow thrower is installed, it is recommended that the angling cylinder be removed and replaced by either the standard front hitch strut (See Figure 8) or the manual angling kit (190-171), set in the center position. The following step 1 applies ONLY to units equipped with the hydraulic angling kit.

1. Remove the angling cylinder as follows:
   - Compress the locking collars of the female fittings to disconnect the angling cylinder hoses from the coupling assemblies on the left side of the tractor.
   - Remove the hoses from the hose support rod.
   - Remove the internal cotter pins and clevis pins fastening the angling cylinder to the pivot plate and the front hitch yoke.
   - Install the front hitch strut (or manual angler set in center position) with the clevis pins and internal cotter pins. Refer to the Angling Kit Operator's Manual if necessary.
2. Cut the cable tie holding the two halves of the drive shaft together and slide the male half from the female half (See Figure 4-5).
3. Pivot the female half shaft to the right and place in the slot in the right side of the shaft cover (See Figure 4-5).

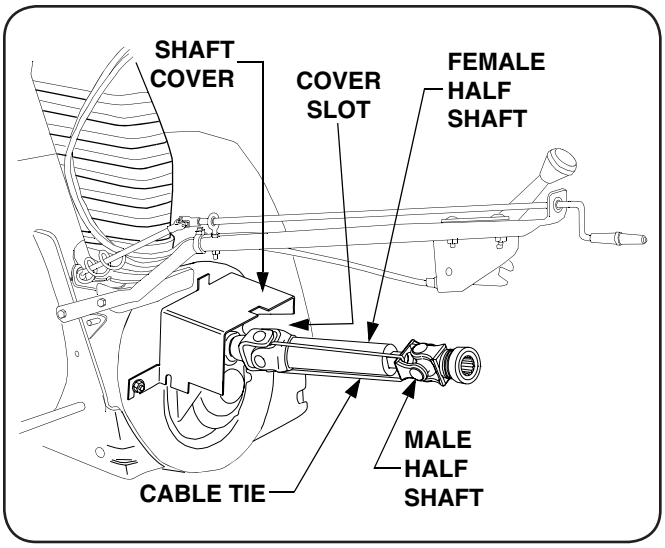

Figure 4-5

4. Make certain the support pins at the bottom of the front hitch yoke are in the engaged position *(through holes in yoke)*. See Figure 4-6.

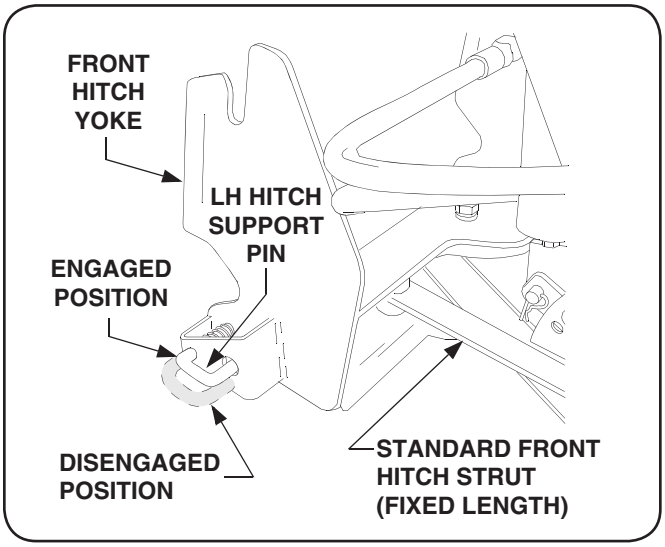

Figure 4-6

5. Start the tractor and align the front hitch yoke with the attachment brackets on each side of the rear blower housing (Refer to Figure 9).
6. Lower the front hitch yoke to clear the bottom of the attachment bracket pins and carefully drive the tractor forward to align the bracket pins with the slots in the hitch yoke (See Figure 4-7).
7. Using the tractor hydraulic system to raise the front hitch yoke, slowly lift the snow thrower until the hitch support pins snap into the holes of the LH and RH housing mounting brackets (See Figure 4-7).

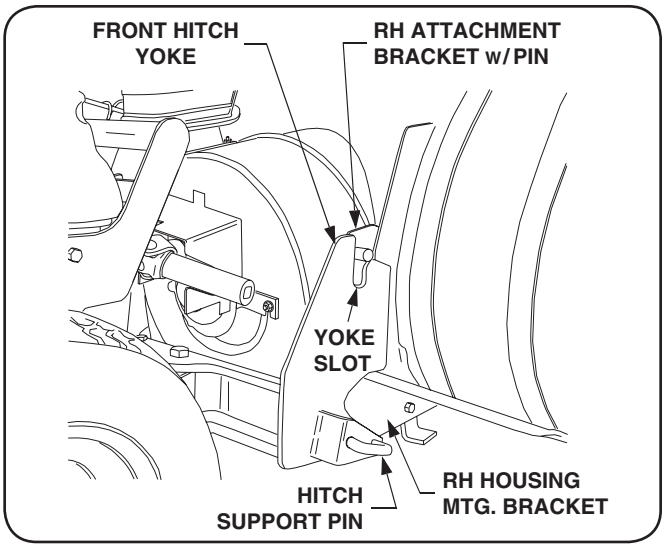

Figure 4-7

8. Stop the tractor engine and engage the parking brake. Check that support pins are fully engaged in the housing mounting brackets holes (See Figure 4-7).

WARNING! If the tractor has been recently operated, the muffler, exhaust pipe, and surrounding areas will be HOT. Allow the tractor to cool before beginning installation

9. Pivot the female half shaft out of the cover slot and position so that it points rearward between the tractor frame. Refer to Figure 4-8.
10. Slide the male half shaft into the female half
11. Compress the auto-lock collar on the snow thrower drive shaft; then slide the shaft fully onto the PTO shaft of the tractor and release the auto-lock collar (See Figure 4-8). The drive shaft will lock onto the PTO shaft if properly connected.

NOTE: It may be necessary to slightly rotate the drive shaft to align the splines of the shafts.

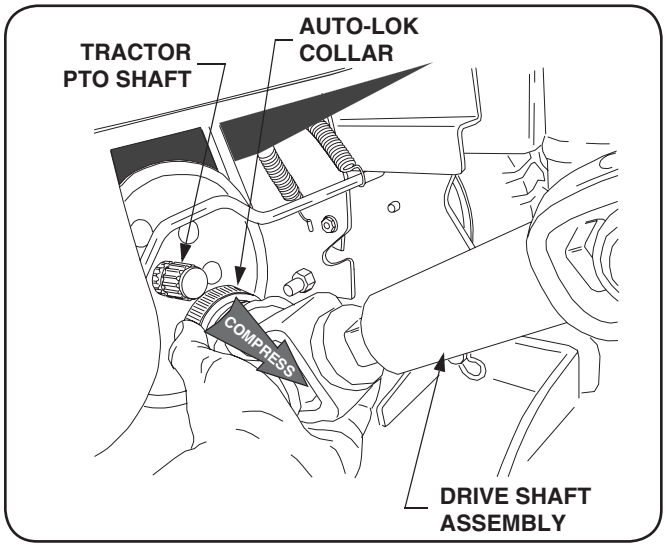

Figure 4-8

REMOVAL

1. Move the snow thrower to its storage location.

2. Compress the auto-lock collar of the snow thrower drive shaft and disconnect the shaft from the tractor PTO shaft. Refer to Figure 4-8.

3. Pull the hitch support pins outward and rotate to lock in the disengaged position. Refer to Figure 8.

4. Using the tractor hydraulic system, lower the front hitch yoke to disengage the snow thrower attachment bracket pins from the slots of the hitch yoke (Refer to Figure 4-7).

5. Back the tractor away from the snow thrower.

ADJUSTMENTS

WARNING! If the snow thrower is to be used on gravel surfaces, use extreme caution to avoid picking up gravel with the shave plate or auger. Loose gravel can damage the auger or housing, and could be thrown at high speed by the impeller—causing possible injury to bystanders or damage to surrounding objects.

Skid Shoe Adjustment

The skid shoes are mounted on each side of the auger housing. They determine the distance the shave plate is raised above the plowing surface. The shave plate should be high for a gravel driveway or other uneven surfaces and low for paved surfaces. Adjust the skid shoes as follows:

a. Raise the snow thrower assembly off the ground and place a block under each end of the shave plate.

b. Loosen the hex insert lock nuts and bell washers securing the skid shoes to the housing.

c. Move the skid shoes up or down to the desired position and securely tighten the lock nuts. Adjust both skid shoes to the same height. Refer to Figure 5-1. Remove the blocks.

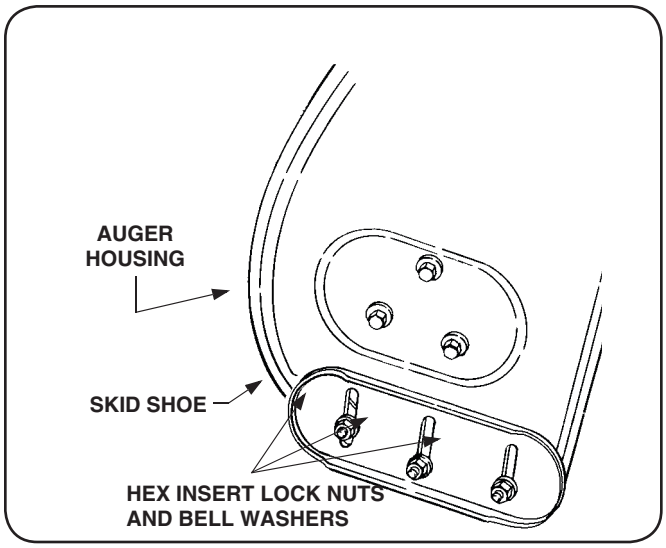

Figure 5-1

Drift Cutters

Drift cutters on both sides of the auger housing can be adjusted to the up position for a higher cut. Refer to Figure 5-2 and proceed as follows:

a. Remove each drift cutter by removing the two carriage bolts and hex insert lock nuts.

b. Turn the drift cutters to the up position and secure with the carriage bolts and lock nuts as shown in Figure 5-2.

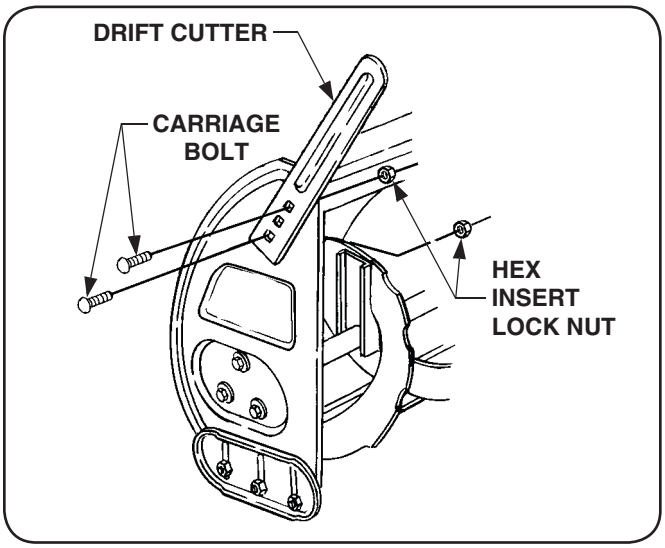

Figure 5-2

Chute Bracket Adjustment

If the spiral at the bottom of the chute directional control is not fully engaging with the chute assembly, the chute bracket can be adjusted. To do so:

1. Loosen the two nuts which secure the chute bracket and reposition it slightly. See Figure 5-3.
2. Retighten the nuts.

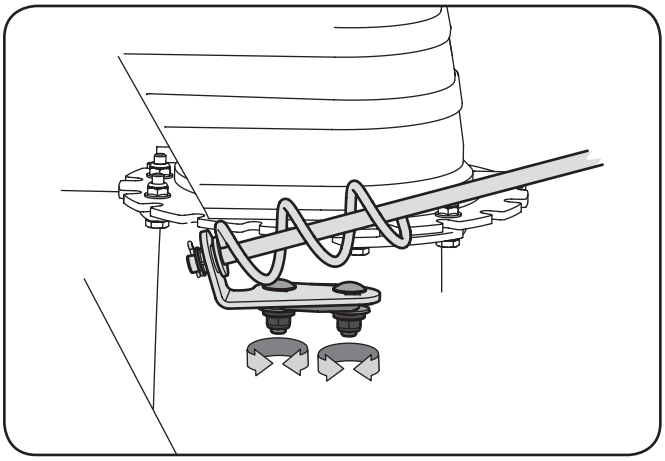

Figure 5-3

CONTROLS

The thrower controls are conveniently located to be operated from the operator's position on the tractor.

1. **Lift Lever:** The tractor hydraulics and front hitch system are used to raise or lower the snow thrower. If installed as recommended, the inner lift handle should control the front hitch system. Pull the lift handle upward (rearward) to raise the snow thrower. Push the lift lever downward (forward) to lower the snow thrower to the ground.
2. **Front Power Take-Off (PTO):** The tractor front PTO switch controls engagement of the snow thrower. To engage the auger, pull the PTO switch handle upward. Push the PTO switch handle downward to disengage the PTO and stop the snow thrower auger.
3. **Discharge Chute Control Crank:** The discharge chute control crank is located on the left hand side of the snow thrower. The chute crank controls the direction in which the snow is thrown. The discharge radius is 190 degrees. Turn the crank clockwise to rotate the discharge chute opening toward the left, and counterclockwise to rotate toward the right. Refer to Figure 5-4.

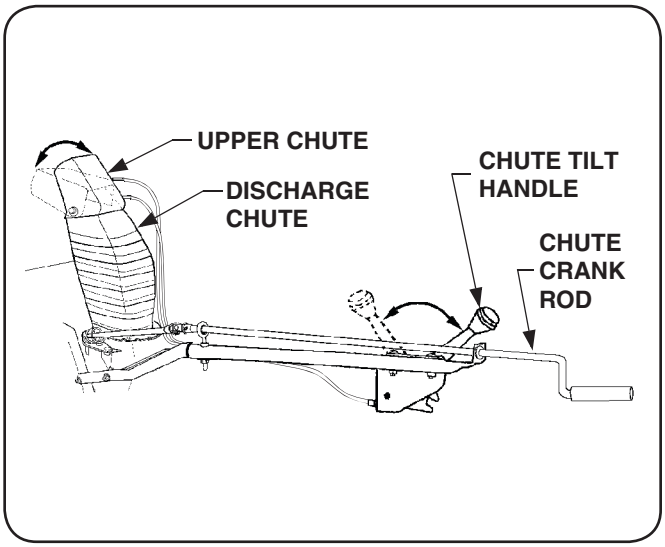

Figure 5-4

4. **Chute Tilt Handle:** The chute tilt handle assembly is also located on the left hand side of the snow thrower assembly. The upper chute of the discharge chute assembly pivots downward when the tilt handle is pushed forward, decreasing the distance snow is thrown. Pulling the handle backwards pivots the upper chute upward, increasing the distance snow is thrown. Refer to Figure 5-4.

OPERATION

The following steps describe methods for safe and proper operation of this snow thrower. Refer to "SAFE OPERATION PRACTICES" on page 3 of this manual for additional safe operating practices.

1. The snow thrower is capable of handling heavy snow conditions. Become fully familiar with all aspects of both the tractor and snow thrower prior to its usage. DO NOT remove any guards or covers while operating the tractor and snow thrower.

WARNING! Whenever the snow thrower is installed on the front of the tractor, usage of rear weights on the tractor is recommended to counterbalance the weight of the snow thrower and provide stability to the tractor. See the Table of Contents page for more information.

2. Before placing the snow thrower into operation:
   a. Check all nuts and bolts for proper tightness. Be sure that all parts are properly assembled.
   b. Test all controls for smooth and proper operation.
      - Tractor lift handle and front hitch system
      - PTO switch
      - Discharge chute control crank assembly
      - Discharge chute tilt control
   c. Inspect the tractor and snow thrower to make certain both are in good operating condition.

d. Fill the tractor's fuel tank outdoors. Avoid spilling fuel onto the engine or any other source of heat or combustion. Do not fill the tank while the engine is running. Wipe up any spilled fuel before starting the engine.

3. The auger speed is directly related to the engine speed. For optimal snow removal and discharge, maintain high engine R.P.M. (full throttle). Control the tractor's ground speed using the forward control pedal (and cruise control feature, if desired). It is recommended that the tractor be operated at a slow ground speed for safer handling and efficient snow removal.
4. Snow removal conditions vary greatly from light fluffy snowfall to wet heavy snow. Therefore, operating instructions must be flexible to fit the conditions encountered. The operator must adapt the tractor and snow thrower to the depth of snow, wind direction, temperature and surface conditions.
5. In deep, drifted or banked snow, it will be necessary to use full throttle and a slow ground speed. Drive the auger into the snow, stop and allow the auger to clear the snow. Repeat this method until a path is cleared. On the second pass (and each succeeding pass), overlap the preceding pass enough to allow the auger to handle the volume of snow without having to stop the tractor.
6. In extremely deep snow, the snow thrower may be raised to the transport position, then slowly driven into the deep snow to remove the top layers first. However, do not drive the tractor into a snow bank where the snow has not been cleared to the ground level. Stop the tractor's forward movement and allow the auger to clear the snow. Reverse the tractor and lower the snow thrower to the ground to clear the remaining snow. Working with repeated passes into and out of drifts, even the deepest snow piles can be cleared.

SPECIAL PRECAUTIONS

WARNING! If the snow thrower becomes plugged with snow or jammed due to hitting a foreign object, immediately disengage the PTO to stop the snow thrower, then stop the tractor engine. If plugged, SAFELY (see below) clear the chute before resuming operation.

WARNING! Never place your hand into the discharge chute to remove plugged snow. Use a wooden dowel rod, or similar object, to unclog the chute. Never use your hand to remove any object jamming the auger or impeller. The auger or impeller could move when the obstruction is dislodged. Use an appropriate tool (dowel rod, bar, etc.) to remove the obstruction.

WARNING! If the auger is jammed or bent from hitting a foreign object, disengage the PTO and stop the tractor engine. Remove the spark plug wires from the spark plugs and then remove the foreign object from the auger. If damage is noted, repair or replace damaged components prior to continuing operation. Reconnect the spark plug wires and resume operation.

OPERATING TIPS

- Whenever possible, discharge snow down wind.
- DO NOT attempt to clear ice or hard packed frozen snow.
- Always overlap each pass slightly to assure complete snow removal.
- A frozen or stuck auger or chute must be broken loose or thawed with care. When attempting to loosen a frozen or jammed auger, shut off the tractor engine and disconnect the spark plug wire(s). Never attempt to clear the snow thrower at any time with the tractor engine running.

  NOTE: When the snow thrower and tractor are not in use, lower the snow thrower to the ground to eliminate the excess weight from the lift system and the front tires.

WARNING! When making any adjustments, disengage the PTO and turn the tractor engine off.

During Seasonal Usage

This section describes maintenance procedures designed to keep your snow thrower in good operating condition.

Shave Plate And Skid Shoes

The shave plate and skid shoes on the bottom of the snow thrower housing are subject to wear. They should be periodically checked for wear and replaced when necessary. Failure to do so will result in damage to the housing. Refer to Figure 7-1.

Replace the shave plate as follows:

a. Remove the all of the carriage bolts and hex flange lock nuts that secure the shave plate to the bottom of the housing.

b. Remove the rear most carriage bolt, bell washer and hex insert lock nut securing the back end of each skid shoe to the sides of the housing.

NOTE: If necessary to ease sliding the shave plate out of position on the housing, loosen the four remaining hex insert lock nuts which secure the skid shoes to the housing.

c. Slide the shave plate out of the off-set slot of the housing, and from between the skid shoes and side panels of the housing.

d. With the mounting holes toward the back, slide the new shave plate into position and secure with the fasteners removed previously.

The skid shoes are reversible for longer life. Remove the carriage bolts, bell washers and hex insert lock nuts fastening the skid shoes to the housing. Turn the shoes over and/or reverse sides to ensure even wear and extend their service life.

Augers

1. The augers are secured to the auger shaft with two shear bolts and hex insert lock nuts. Refer to Figure 7-1. If the auger is suddenly jammed by a foreign object or ice chunk, the bolts are designed to shear — minimizing potential damage to the gear boxes.
2. If the augers will not turn, check the bolts to see if they have sheared. Two replacement shear bolts (7) and hex insert lock nuts (8) have been provided with the snow thrower. For future use, order part number 710-0891 for replacement shear bolts and 712-0429 for the lock nuts.

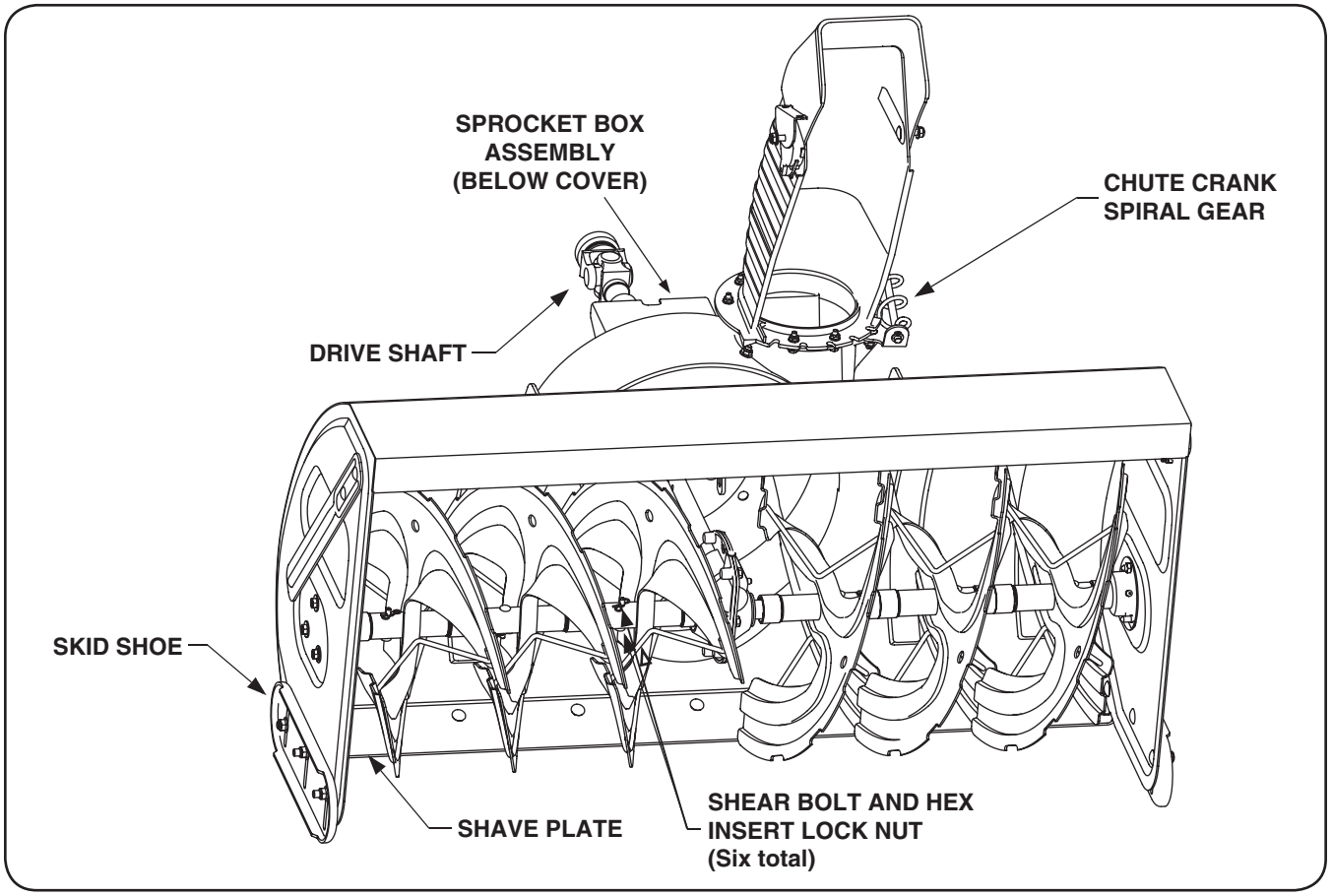

Figure 7-1

Lubrication

1. The auger gear box is lubricated with grease at the factory and is neither externally serviceable, nor requires checking. If disassembled for any reason, lubricate with 2 ounces (by weight) of Shell Alvania grease, part number 737-0168A. Before reassembling, remove all old sealant and apply Loctite Ultra Grey (759-3746) sealant, or equivalent, to the housing halves.
2. The sprocket box assembly is also neither externally serviceable, nor requires checking. If disassembled for any reason, lubricate with 5.0 ounces (by weight) of Benalene grease, part number 737-0300A. Before reassembling, remove old sealant and apply Loctite Ultra Grey (759-3746) sealant or equivalent.
3. The right angle gear box is not serviceable and should not be disassembled.
4. Apply penetrating oil to the cables of the chute tilt handle assembly at least once a season.
5. Apply a good grade of spray lubricant to the universal joints of the chute crank, and to the pivot of the chute tilt handle at least once a season.
6. Lubricate the chute crank spiral gear with a multi-purpose automotive grease once a year.
7. Lubricate the telescoping square spindle of the drive shaft (rear half) using 251H EP grease or an equivalent No. 2 multi-purpose lithium grease once a year.
8. Lubricate the bearings at each end of the auger shaft with oil or spray lubricant at least once a season.
9. Although not necessary, it is advisable to remove the auger shear pins at least once a season and spray penetrating oil between the auger tubes and auger shaft.

Off-Season Storage

At the end of the snow season the following steps are recommended:

1. Remove the snow thrower assembly from the tractor.
2. Wash off any salt deposits which may have dried on the snow thrower housing. Paint, or cover with a light coat of oil, any exposed metal surfaces.
3. Lubricate bearings and pivot points with a good grade of spray lubricant.
4. Store the snow thrower in a dry place.

CUB CADET LLC
MANUFACTURER'S LIMITED WARRANTY FOR
SERIES 3000 TRACTORS

IMPORTANT: To obtain warranty coverage owner must present an original proof of purchase and applicable maintenance records to the servicing dealer. Please see the operator's manual for information on required maintenance and service intervals.

The limited warranty set forth below is given by Cub Cadet LLC with respect to new merchandise purchased or leased and used in the United States and/or its territories and possessions, and by MTD Products Limited with respect to new merchandise purchased or leased and used in Canada and/or its territories and possessions (either entity respectively, "Cub Cadet").

Cub Cadet warrants this product (excluding its *Normal Wear Parts, Batteries, Frame, Front Axle and Drive Shaft and Attachments* as described below) against defects in material and workmanship for a period of three (3) years or one hundred eighty (180) operation hours, whichever comes first, commencing on the date of original retail purchase or lease and will, at its option, repair or replace, free of charge, any part found to be defective in materials or workmanship.

Normal Wear Parts are warranted to be free from defects in material and workmanship for a period of thirty (30) days from the date of original purchase or lease. Normal wear parts include, but are not limited to items such as: belts, blades, blade adapters, grass bags, rider deck wheels, seats, and tires.

Batteries have a one-year prorated limited warranty against defects in material and workmanship, with 100% replacement during the first three months. After three months, the battery replacement credit is based on the months remaining in the twelve (12) month period dating back to the original date of original sale or lease. Any replacement battery will be warranted only for the remainder of the original warranty period.

Frame, Front Axle and Drive Shaft — Cub Cadet warrants the frame, front cast iron pivot axle and drive shaft against defects in material and workmanship for a period of five (5) years or 500 hours, whichever occurs first, commencing on the date of original purchase or lease.

Attachments — Cub Cadet warrants attachments for this product against defects in material and workmanship for a period of two (2) years, commencing on the date of the attachment's original purchase or lease. Attachments include, but are not limited to items such as: grass collectors and mulch kits.

This limited warranty shall only apply if this product has been operated and maintained in accordance with the Operator's Manual furnished with the product, and has not been subject to misuse, abuse, neglect, accident, improper maintenance, alteration, vandalism, theft, fire, water, or damage because of other peril or natural disaster. Damage resulting from the installation or use of any part, accessory or attachment not approved by Cub Cadet for use with the product(s) covered by this manual will void your warranty as to any resulting damage. In addition, Cub Cadet may deny warranty coverage if the hour meter, or any part thereof, is altered, modified, disconnected or otherwise tampered with.

HOW TO OBTAIN SERVICE: Warranty service is available, WITH PROOF OF PURCHASE AND APPLICABLE MAINTENANCE RECORDS, through your local authorized service dealer. To locate the dealer in your area:

In the U.S.A.:
Check your Yellow Pages, or contact Cub Cadet LLC at P.O. Box 361131, Cleveland, Ohio 44136-0019, call 1-877-282- 8684
or log on to our website at www.cubcadet.com.

In Canada:
Contact MTD Products Limited, Kitchener, ON N2G 4J1, call 1-800-668-1238 or log on to our website at www.mtdcanada.com.

Without limiting the foregoing, this limited warranty does not provide coverage in the following cases:

a. Routine maintenance items such as lubricants, filters, blade sharpening, tune-ups, brake adjustments, clutch adjustments, deck adjustments, and normal deterioration of the exterior finish due to use or exposure.

b. Service completed by someone other than an authorized service dealer.

c. Cub Cadet does not extend any warranty for products sold or exported outside of the United States and/or Canada, and their respective possessions and territories, except those sold through Cub Cadet's authorized channels of export distribution.

d. Replacement parts and\or accessories that are not genuine Cub Cadet parts.

e. Transportation charges and service calls.

There are no implied warranties, including without limitation any implied warranty of merchantability or fitness for a particular purpose. No warranties shall apply after the applicable period of express written warranty above. No other express warranties beyond those mentioned above, given by any person or entity, including a dealer or retailer, with respect to any product, shall bind Cub Cadet. The exclusive remedy is repair or replacement of the product as set forth above. The terms of this warranty provide the sole and exclusive remedy arising from the sale and/or lease of the products covered hereby. Cub Cadet shall not be liable for any incidental or consequential loss or damage including, without limitation, expenses incurred for substitute or replacement lawn care services or for rental expenses to temporarily replace a warranted product.

Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions or limitations may not apply to you.

In no event shall recovery of any kind be greater than the amount of the purchase price of the product sold. **Alteration of safety features of the product shall void this warranty.** You assume the risk and liability for loss, damage, or injury to you and your property and/or to others and their property arising out of the misuse or inability to use the product.

This limited warranty shall not extend to anyone other than the original purchaser or to the person for whom it was purchased as a gift.

HOW LOCAL LAWS RELATE TO THIS WARRANTY: This limited warranty gives you specific legal rights, and you may also have other rights that vary in different jurisdictions.

Cub Cadet LLC, P.O. BOX 361131 CLEVELAND, OHIO 44136-0019, Phone: 1-877-282-8684
MTD Products Limited, Kitchener, ON N2G 4J1, Phone: 1-800-668-1238

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